Claims

1. Use in medicine of a compound which is capable of blocking the interaction of phosphorylase *a* with the glycogen-targeting subunit (G_L) of protein phosphatase 1.

2. Use as claimed in Claim 1 wherein the compound is for use in the manufacture of a medicament for use in the treatment of a disorder associated with higher than normal blood glucose levels.

3. Use as claimed in Claim 2 wherein the disorder is selected from type I and/or type II diabetes.

4. Use in medicine as claimed in Claim 1 wherein the compound is a polypeptide comprising the 16 mer amino acid sequence PEWPSYLGYEKLYPYY, or a fragment or variant thereof which is capable of binding phosphorylase *a*.

5. Use as claimed in Claim 4 wherein the polypeptide increases the activity of hepatic glycogen synthase.

6. A pharmaceutical composition comprising an inhibitor compound which is capable of blocking the interaction of phosphorylase *a* with the glycogen - targeting subunit (G_L) of protein phosphatase 1, together with a pharmaceutically acceptable exipient or carrier.

7. A pharmaceutical composition as claimed in Claim 6 wherein the inhibitor compound comprises a polypeptide having the 16 mer amino acid

sequence PEWPSYLGYEKLYPYY, or a fragment or variant thereof which is capable of binding phosphorylase *a*.

8. A pharmaceutical composition as claimed in Claim 6 wherein the polypeptide consists of a truncated version of the glycogen-targeting subunit of protein phosphatase 1.

9. A method of identifying an inhibitor compound which is capable of blocking the interaction of phosphorylase *a* with the glycogen-targeting subunit of protein phosphatase 1 comprising;
providing a polypeptide comprising the 16 mer amino acid sequence PEWPSYLGYEKLYPYY, or fragment or variant thereof which binds phosphorylase *a*;
providing a test compound; and
comparing the binding of the polypeptide by phosphorylase *a* in the presence or absence of the test compound; an inhibitor being identified by reduced binding in the presence of the test compound.

10. A method as claimed in Claim 9 wherein the phosphorylase *a* is labelled and the binding of phosphorylase *a* to the polypeptide is determined by measuring the amount of label.

11. A method as claimed in Claim 10 wherein phosphorylase *a* is labelled with a label selected from digoxygenin and ^{32}P or ^{33}P.

12. A compound which is identifiable by the method of any one of Claims 9 to 11.

13. A method of reducing the blood glucose level of a mammalian animal comprising administering a therapeutically effective amount of an inhibitor compound as defined in any one of Claims 1 to 12.

14. A method as claimed in Claim 13 wherein the mammalian animal is a human.